



REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-11 are pending in the present application. No claims are amended, added, or canceled by the present response.

In the outstanding Office Action, Claims 1-11 were rejected under 35 U.S.C. § 102(e) as anticipated by Kato et al. (U.S. Patent No. 6,928,041, herein "Kato"), which is respectfully traversed for the following reasons.

Briefly recapitulating, independent Claim 1 is directed to a disk drive that includes, *inter alia*, a push-pull signal generator, an amplitude variation signal generator, an offset signal generator, a reference signal generator, and a pre-pit detector. The push-pull signal generator generates a push-pull signal, the amplitude variation signal generator generates and outputs a fundamental amplitude variation signal indicating the fundamental amplitude variation of the push-pull signal, the offset signal generator generates an offset signal, the reference signal generator generates a reference signal by adding the offset signal generated by the offset signal generator to the fundamental amplitude variation signal generated by the amplitude variation signal generator, and the pre-pit detector compares the push-pull signal with the reference signal and outputs a comparison result as a pre-pit detection signal.

Independent Claims 5 and 9 recite similar features to independent Claim 1.

In a non-limiting example, Figure 2 shows the push-pull signal generator 9a-c, the amplitude variation signal generator 44, the offset signal generator producing the signal Dth, the reference signal generator 42, and the pre-pit detector 41.

Turning to the applied art, Kato shows in Figure 6 a pre-pit detecting apparatus that has a radial push-pull signal unit 33, a binarization circuit 34, and a threshold setting circuit

35. Further, Kato shows in Figure 7 a reference signal that is provided to an amplifier 61 together with the push-pull signal.

The outstanding Office Action asserts on page 3 that Kato discloses the claimed offset signal generator, and the reference signal generator that generates a reference signal by adding the offset signal generated by the offset signal generator to the fundamental amplitude variation signal generated by the amplitude variation signal generator at column 8, lines 41-52, column 5, line 67 to column 6, line 6, at column 6, lines 16-18, and at column 8, lines 41-52.

However, Kato discloses in these columns only that:

the push-pull signal PP output from the subtractor 33 is supplied to the threshold setting circuit 35 in addition to the above binarization circuit 34. The threshold setting circuit 35 calculates a threshold level to obtain the pre-pit detection signal PP_D corresponding to the LPP and the binarization circuit 34 and outputs the threshold signal to show the threshold value. The threshold signal generated by the threshold setting circuit 35 is supplied to the binarization circuit 34.

and

The threshold value TH can be calculated in Step S34 by one of the three methods below.

- (1) Add a certain offset value $\Delta V1$ to the maximum value W_{Omax} of the wobbling groove section ($TH=W_{Omax}-\Delta V1$),
- (2) Subtract a certain offset value $\Delta V2$ from the minimum value LP_{min} of the fluctuation width of the LPP section ($TH=LP_{min}-\Delta V2$)
- (3) Calculate the average of the maximum value W_{Omax} of the wobbling groove section and the minimum value LP_{min} of the variation width of the LPP section ($TH=(W_{Omax}+LP_{min})/2$).

However, Applicants respectfully submit that the above-noted paragraphs of Kato do not describe the claimed reference signal generator configured to generate the reference signal by **adding** (1) the offset signal to (2) the fundamental amplitude variation signal as recited by independent Claims 1, 5, and 9.

In other words, the signals W_{Omax} and LP_{min} of Kato do not correspond to the amplitude variation signal recited by Claim 1. The signals W_{Omax} and LP_{min} of Kato are

just minimum and maximum values as shown in Figures 13A-C of Kato and do not indicate the amplitude variation of the push-pull signal as required by independent Claims 1, 5, and 9.

Accordingly, it is respectfully submitted that independent Claims 1, 5, and 9 and each of the claims depending therefrom patentably distinguish over Kato.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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